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by

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Evaluating the Impact of Temporary Staffing on Patient Safety Indicators in U.S. Hospitals: A Cross-Sectional Analytical Study Using National CMS Data

Introduction

Temporary staffing has become a widespread solution to workforce shortages in U.S. hospitals. While flexible staffing addresses peak patient load and labor gaps, concerns have emerged regarding its impact on patient safety. Studies have indicated that temporary staff may lack familiarity with hospital systems and protocols, potentially leading to adverse outcomes such as hospital-acquired infections (HAIs), delays in emergency services, and higher PSI-90 composite scores. This study investigates how temporary staffing ratios correlate with patient safety metrics across U.S. hospitals using national datasets.

Research Questions

1. How does the percentage of temporary staffing correlate with hospital PSI-90 scores and other safety indicators?
2. Do ownership type, region, and hospital category influence the relationship between staffing type and patient safety?

Objectives

1. To quantify the correlation between temporary staffing and patient safety metrics such as PSI-90, CLABSI, MRSA, and ED wait times.
2. To compare PSI-90 scores across hospital ownership types (government, for-profit, non-profit).

MATERIAL AND METHODS:

STUDY DESIGN: Cross-sectional analytical study using a retrospective dataset from CMS and AHRQ.

SETTING: U.S. hospitals reporting to CMS Hospital Compare database.

SAMPLE SIZE:

2,257 hospitals across the United States.

SAMPLING TECHNIQUE:

- Purposive sampling

DATA COLLECTION

- Public CMS datasets including:
- Patient Safety Indicators (PSI-90)
- Hospital-acquired infection rates (CLABSI, MRSA, C. difficile)
- ED wait times
- Nurse staffing hours by staff type

OPERATIONAL DEFINITIONS:

Temporary Staffing %: Proportion of total nursing hours contributed by temporary staff.
PSI-90 Score: Composite safety score of hospitals based on preventable adverse events.
HAIs: Hospital-Acquired Infections including CLABSI, MRSA, and C. difficile.
ED Wait Time: Average time patients spend before being admitted to the emergency department.

References

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